IN THE CLAIMS

1. (previously presented) Friction clutch device including, on the one hand, a rotational drive flywheel (13) featuring a front extremity intended to be fixed to a drive shaft (11), and a rear extremity in the form of a hollow-shaped reaction plate (4) with a central recess (39) delimited externally by a friction face (37), and, on the other hand, a friction disc (20) comprising, at its outer periphery, at least one friction lining (16) for contact with the friction face (37), of the reaction plate (4), said friction lining (16) being integral with a support (21) coupled elastically, by way of a torsion damper (20a), to a central hub (15) intended to be integrated in rotation with a driven shaft,

wherein the torsion damper (20a) penetrates into the central recess (39) of the reaction plate (4) and the drive flywheel (13), between its front and rear extremities, carries the rotor (6) of a rotating electric machine (2) comprising a fixed stator (5),

and wherein the torsion damper (20a) includes, on the one hand, a first guide washer (29) integral with the support (21) and with a second guide washer (30), and, on the other hand, a web (34) arranged between the two guide washers (29, 30), and linked in rotation, possibly after taking up play, with the hub (15),

and wherein the second guide washer (30) is installed in the central recess (39) of the reaction plate (4).

2. (canceled)

3. (previously presented) Device according to Claim 1, wherein the torsion damper (20a) is installed radially under a first annular portion (38) of axial orientation being connected to the inner periphery of the friction face (37).

4. (previously presented) Device according to Claim 3, wherein the first portion (38) is extended inwards by an inclined portion (142).

5. (previously presented) Device according to Claim 4, wherein the inclined portion is extended by a ring (130) o£ transverse orientation.

6. (previously presented) Device according to Claim 3, wherein the first portion (38) is connected to a ring of transverse orientation (130).

7. (previously presented) Device according to Claim 3, wherein the recess (39) is staircase-shaped.

8. (canceled)

9. (previously presented) Friction clutch device including, on the one hand, a flywheel (13) featuring a front extremity intended to be fixed to a drive shaft (11), and a rear extremity in the form of a hollow-shaped reaction plate (4) with a central recess (39) delimited externally by a friction face (37), and, on the other hand, a friction disc (20) comprising, at its outer periphery, at least one friction lining (16) for contact with the friction face (37), of the reaction plate (4), said friction lining (16) being integral with a support (21) coupled elastically, by way of a torsion damper (20a), to a central hub (15) intended to be integrated in rotation with a driven shaft,

wherein the torsion damper (20a) penetrates into the central recess (39) of the reaction plate (4) and the drive flywheel (13), between its front and rear extremities, carries the rotor (6) of a rotating electric machine (2) comprising a fixed stator (5),

wherein the drive flywheel (13) is in at least a first part consisting of the reaction plate (4) and a second part (130, 131, 46) integral in rotation with the first part and intended to be fixed onto the drive shaft (12), and

wherein the second part (130, 131, 46, 230) consists of a spacer intended to be interposed between the drive shaft and the reaction plate.

10. (previously presented) Device according to Claim 9, wherein the spacer (130, 131, 46) has an overall U-shaped cross section with an upper branch (46) of axial orientation, overall in the form of a sleeve with an end shoulder (48) for fixing to the rotor (6) of the electric machine (2), and an annular lower branch (131) of axial orientation for fixing to the reaction plate (4).

11. (previously presented) Device according to Claim 9, wherein the spacer (230) consists of a shaft.

12. (previously presented) Device according to Claim 9, wherein the second part consists of a shaft splined at its rear extremity for linking in rotation with the reaction plate (4).

13. (previously presented) Device according to Claim 9, wherein the second part consists of a pedestal splined internally for linking in rotation with a central shaft (430} coming from the reaction plate (4).

14. (previously presented) Device according to Claim 9, wherein the second part consists of a flange (431a) linked in rotation with a central shaft (430a) coming from the reaction plate (4).

15. (previously presented) Device according to Claim 14, wherein the flange (431a) centrally features a hub (431b) with an internal bore of frustoconical shape for mounting on the outer periphery of the shaft (430a) of frustoconical shape.

16. (previously presented) Device according to Claim 14, wherein the flange (431a), at its outer periphery, carries a sleeve with an end shoulder (48) for fixing to the rotor (6) of the electric machine (2).

17. (previously presented) Friction clutch device including, on the one hand, a rotational drive flywheel (13) featuring a front extremity intended to be fixed to a drive shaft (11), and a rear extremity in the form of a hollow-shaped reaction plate (4) with a central recess (39) delimited externally by a friction face (37), and, on the other hand, a friction disc (20) comprising, at its outer periphery, at least one friction lining (16) for contact with the friction face (37), of the reaction plate (4), ~~the~~ said friction lining (16) being integral with a support (21) coupled elastically, by way of a torsion damper (20a), to a central hub (15) intended to be integrated in rotation with a driven shaft,

wherein the torsion damper (20a) penetrates into the central recess (39) of the reaction plate (4) and the drive flywheel (13), between its front and rear extremities, carries the rotor (6) of a rotating electric machine (2) comprising a fixed stator (5),

wherein the drive flywheel (13) carries bearing means (132) interposed radially between the said flywheel (13) and a carrier piece (134) integral with the stator (5) for defining a precise gap between the stator (5) and the rotor (6).

18. (previously presented) Device according to Claim 17, wherein the bearing means (132) are installed radially above elements (145) for fixing the drive flywheel (13) to the drive shaft (11).

19. (previously presented) Device according to Claim 18, wherein the bearing means (132) are carried at their inner periphery by a spacer (130, 46, 131) belonging to the flywheel (13) and integral with the reaction plate (4) for forming a spacer between the reaction plate (4) and the drive shaft (11).

20. (previously presented) Device according to Claim 18, wherein the bearing means (132) are carried at their outer periphery by a sleeve (46) integral with the reaction plate (4) and at their inner periphery by a skirt (133) integral with a carrier piece (134) carrying the stator (5) at its outer periphery.

21. (previously presented) Device according to Claim 17, wherein the bearing means (132) are installed on the same circumference as the elements (245) for fixing the drive flywheel (13) to the drive shaft (11).

22. (previously presented) Device according to Claim 11, wherein the bearing means (132) are installed radially below elements (345) for fixing the drive flywheel (13) to the drive shaft (11).

23. (previously presented) Device according to Claim 22, wherein the carrier piece is provided with through-holes (545), for at least one tool for screwing the fixing elements (345), consisting of screws, to pass through.

24. (previously presented) Device according to Claim 23, wherein the reaction plate (4) features through-holes in axial coincidence with the through-holes (545} of the carrier piece.

25. (previously presented) Device according to Claim 17, wherein the carrier piece (134) is integral with a spacer (61) and internally carries elastic means (462, 463) which can be deformed in order for elements (64), for fixing and flexible mounting of the carrier piece (134) onto an engine block (62) of an internal-combustion engine, to pass through.

26. (previously presented) Device according to Claim 1, wherein an engine flywheel (13) carries clearance means for chignons (8) which the stator (5) of the electric machine (2) features in axial projection.

27. (previously presented) Device according to Claim 17, wherein the carrier piece (134) features clearance means for chignons (8) which the stator (5) of the electric machine (2) features in axial projection.

28. (previously presented) Device according to Claim 1, wherein the engine flywheel (31) carries cooling means for cooling the electric machine.

29. (previously presented) Device according to Claim 28, wherein the cooling means consist of fins (1200, 1201, 1202, 1206) carried by one of the elements of the reaction plate (4) and rotor (6).

30. (previously presented) Device according to Claim 1, wherein the stator (5) of the electric machine (2) carries cooling means.

31. (previously presented) Device according to Claim 30, wherein the cooling means consist of piercings formed in the pack of metal plates (10) which the stator (5) features, said piercings making it possible to transport a heat-carrying fluid from one face to the other.

32. (previously presented) Device according to Claim 30, wherein the stator (5) is integral with a spacer (61) carrying an air inlet (1208) and an air outlet (127).

33. (previously presented) Device according to Claim 1, wherein the reaction plate, at its outer periphery, features an annular skirt (144) surrounding at least one of the friction lining and linings (16) of the friction disc (20) and wherein the annular skirt (144), at its inner periphery, features a groove (148) for catching the dust.

34. (previously presented) Device according to Claim 20, wherein the reaction plate (4) includes a sleeve (46) carrying the rotor (6) of the electric machine (2).

35. (previously presented) Device according to Claim 1, wherein the drive flywheel (13) locally features removal of material (1000) for dynamic balancing of the friction-clutch device.

36. (previously presented) Device according to Claim 1, wherein the drive flywheel (13) locally features additions of material for dynamic balancing of the friction clutch device.

37. (previously presented) Device according to Claim 1, wherein the reaction plate (4) features tappings for mounting a removable plate (3000) equipped with at least one gauge rod (3001) penetrating, with centring, into a hole (3002) formed in a pack of metal plates (10) which the stator (5) features.

38. (previously presented) Device according to Claim 37, wherein the plate (3000) carries shims (3007) intended to be interposed between the stator (5) and the rotor (6) for defining a gap (7).

39. (previously presented) Device according to Claim 1, wherein the reaction plate (4), at its outer periphery, features a toothed crown ring intended to be associated with at least one sensor.

40. (currently amended) Friction clutch device including, on the one hand, a rotational drive flywheel (13) featuring a front extremity intended to be fixed to a drive shaft (11), and a rear extremity in the form of a hollow-shaped reaction plate (4) with a central recess (39) delimited externally by a friction face (37), and, on the other hand, a friction disc (20) comprising, at its outer periphery, at least one friction lining (16) for contact with the friction face (37), of the reaction plate (4), ~~the~~ said friction lining (16) being integral with a support (21) coupled elastically, by way of a torsion damper (20a), to a central hub (15) intended to be integrated in rotation with a driven shaft,

wherein the torsion damper (20a) penetrates into the central recess (39) of the reaction plate (4) and the drive flywheel (13), between its front and rear extremities, carries the rotor (6) of a rotating electric machine (2) comprising a fixed stator (5), and

wherein the reaction plate (4) carries a cover (19) on which is mounted, so as to pivot, a diaphragm (18, 22) bearing on the cover (19) for acting on a reaction plate (17) and clamping of the friction lining (16) between the pressure plates (17) and the reaction plate (4), said pressure plate being integral in rotation with ~~the~~ said cover (19) while being able to be moved axially with respect to it,

wherein a declutching release bearing (23) is intended to act on inner extremities of ~~the~~ fingers (22) which the diaphragm features centrally and wherein ~~in that~~ the declutching release bearing belongs to a declutching device (24).

41. (canceled)

42. (currently amended) Device according to Claim ~~42~~ 40, wherein the declutching device (24) includes a piston (241) mounted so that it can move within a blind annular cavity (243) of axial orientation for forming a variable-volume chamber, and wherein the piston (241) carries the declutching release bearing (23) and wherein the blind annular cavity (243) is delimited by an outer body (242), wherein a pre-load spring (244) acts between the outer body (242) and the declutching release bearing (23), and wherein a force sensor (2000) is associated with the pre-load spring (244).

43. (previously presented) Device according to Claim 42, wherein a position sensor is placed between the pre-load spring (244) and the outer body {242).

44. (previously presented) Device according to Claim 42, wherein the declutching device is manoeuvred by an electric-motor actuator linked to a computer receiving information originating from sensors detecting the speed of rotation of the drive shaft (11) and of the driven shaft (12), and wherein the sensor of the speed of rotation of the drive shaft is used to detect the speed of rotation of the rotor (6) of the electric machine.

45. (previously presented) Device according to claim 40, further comprising a wear take-up device for compensating for at least the wear of said friction lining.